

## PEDIATRICS.

UNDER THE CHARGE OF

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**Serum Treatment in Diphtheria.**—E. W. GOODALL (*Brit. med. Jour.*, 1911, No. 2615, 292) while regarding antitoxic serum as a specific, believes there are certain limits to its use. While he believes in the importance of early treatment, he has modified his earlier view that the limit of its use is the limit of dosage. After the introduction of this serum, and later the sera for tetanus, the streptococcus, and enteric fever, a symptom complex was found to occur after serum injections in a number of cases. This has been called "serum sickness," and has been found to be due to the serum itself and occurs in about 33 per cent. of the cases treated. The general symptoms are fever and a rash, usually urticarial in nature. Other and more severe symptoms were observed in 3 to 4 per cent. of the cases, namely, acute pain and swelling of the joints, pain in the tendons and fasciæ. These general symptoms rarely set in before one week after the serum injection, and sometimes three weeks. The fever, rash, and occasional arthritic symptoms are known as the "normal reaction," and are due to the horse serum. It is known that the sera of other animals can give rise to the same effects. In the great majority of cases the normal reaction, while unpleasant, is not dangerous. "Abnormal reactions" were next recognized and divided into those following a second injection of serum, and those following a primary injection. Abnormal reactions following a second injection have the usual incubation period of at least one week. This reaction is unusually severe and abrupt. There is faintness and much swelling of the body surface and the mucous membranes from the urticaria. A second type of this class exhibits an incubation period shorter than usual, from twelve hours to six days. This is termed "accelerated reaction" and exhibits severe urticarial swelling, vomiting, prostration, and swelling of the joints. In a third type of this group, called "immediate reaction," the serum reaction appears within a few minutes to five or six hours after the injection, and exhibits an explosive suddenness, high temperature, cyanosis, and rigor. From these facts, therefore, it is deduced that in certain persons injection of a foreign serum leads to increased susceptibility to that serum if repeated. "Abnormal reactions" following a first injection are more severe and often fatal. Gillette collected 30 cases of this kind, 16 of which were fatal. Most of them occurred in the United States. Twenty-two in this series were subject to asthma of some form or other. The symptoms of this class of cases are usually intense dyspnoea, failing respiration, with cyanosis and collapse. They occur shortly after the injection. Goodall believes that an indiscriminate use of the serum as a prophylactic is unjustifiable. A delay of a day or two in doubtful cases not laryngeal is justifiable. In undoubted diphtheria Goodall would hesitate to give the serum only when the patient is asthmatic. If the

disease is severe or the larynx is involved, the choice between the two evils would be to give the serum and risk the possible hypersensitivity. The earlier the treatment in any case, the smaller the dose necessary. Large doses of calcium lactate tend to mitigate the rash of serum sickness.

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**Chorea Successfully Treated with Salvarsan.**—JOHANN V. BOKAY (*Deutsch. med. Woch.*, 1911, xxvii, 111) reports a case of chorea in a child, aged eight years, which was treated with salvarsan. The chorea was so severe that the child was kept in a padded crib to avoid injuring itself. On November 9, 20 grams of salvarsan was injected subcutaneously and was well taken. On November 11 there was a perceptible diminution in the choreiform movements, and a small, painless, infiltrated area was found at the point of injection. On November 14 a marked improvement in the incoördination was observed and a small, centrally placed area of skin necrosis developed on the infiltrated area. On November 23 the choreiform movements were disappearing rapidly. On November 30 the choreic movements were barely perceptible and the child was up and about. By December 8 the patient was entirely cured and the infiltrated area absorbing. A control case of the same age, but with a less marked chorea, was treated at the same time with Fowler's solution of arsenic, beginning November 9, but by December 12 this case still showed marked choreiform movements, although having had a thorough course of the Fowler's Solution. In the first case, except the infiltration and necrosis at the point of injection, no bad effects were observed from the salvarsan. Bokay does not comment on the quick improvement in his case, but remarks that Rumpel found no improvement in chronic articular rheumatism treated with salvarsan.

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**Neurasthenia in Children.**—CLIVE RIVIERE (*The Practitioner*, 1911, lxxxvi, 38) says that standard examples of neurasthenia are found in older boys and girls, and that slighter forms are common in quite early years, childhood supplying the material out of which adult neurasthenics are made. The preneurasthenic child is usually neurotic, and characterized by overdevelopment of the emotional faculties. An unemotional type marks the other end of the scale, and all grades exist between the two types. The neurotic type presents hypersensitiveness, excitability, emotionability, and timidity. The restrained emotional type is gloomy, solitary, shy, and may be thought dull. The neurotic child is prone to suffer from the functional neuroses, such as night terrors, "tics," and chorea, migraine, epilepsy, asthma, etc., and is peculiarly subject to acute rheumatism. In young children a deficiency of nerve force may be present from earliest childhood, and is characterized by weakness, weariness, poor concentration, and abnormal sensitiveness to climatic conditions. The digestion is weak and capricious, nutrition subnormal, and the hands and feet are habitually cold. The opposite type is the starved neurasthenic, produced by poverty, underfeeding, and loss of sleep, and is characterized by pallor, apathy, and chronic exhaustion. A third type exhibits gastro-intestinal dyspepsia or "mucous disease," combined with neurasthenic symptoms. Treatment of the gastro-intestinal tract does not altogether cure,

where a want of nerve force is primarily responsible. Splanchnic vasomotor paresis, a "pooling" of blood in the splanchnic area, is a marked phenomenon in many cases, and is largely responsible for the feeble circulation, pallor, tendency to faints, and probably intestinal symptoms, including the mucous flux. The treatment of neurasthenia in childhood should be preventive. A non-stimulating, quiet, uneventful childhood is essential. The masticatory instinct must be thoroughly educated to avoid dyspeptic troubles. Schooling is essential, and large public schools are not to be recommended. Underlying causal conditions should be sought and removed; among these are excessive school strain and malnutrition, and overfeeding or "stuffing," especially with sweet carbohydrate "slops." The latter requires a regulated dietary, in a dry form thoroughly masticated, and dietary discipline. Tendency to splanchnic congestion requires special treatment. The feet and legs, if cold, are rubbed and well covered. Daily recumbency for an hour or so is of value. Exercises to strengthen respiratory and abdominal muscles, and a cold sponge or spinal douche are important. Among drugs, occasional use of calomel is valuable. Malt extract and pancreatin are also of value, and digitalis in many cases tends to brace up splanchnic circulation.

**Some Points on "Serum Disease."**—JOHANN V. BOKAY (*Deutsch. med. Woch.*, 1911, xxxvii, 9), in connection with the injurious effects of serum injections, approves of the term "serum sickness," applied to this condition by v. Pirquet and Shick, who described it as a definite clinical picture. Besides the skin affections are found fever, pain, and swelling in the joints, localized oedema, and albuminuria. Instances of this condition since 1894 indicate that the first signs of this condition appear from eight to ten days after the injection of the serum. However, some cases arise in which these reactions to serum occur much more rapidly, even immediately after the injection. Von Pirquet, Shick, and others have shown that this "accelerated reaction" occurs usually where a condition of "anaphylaxis" exists. There is no doubt that anaphylaxis often causes unpleasant symptoms, and the possibility of serum sickness should always be considered at the bedside when, after an interval, serum injection is again necessary. This is especially true, since all these sera are derived from the horse. Wolf-Eisner has indicated the elimination of anaphylaxis by using serum from another species of animal. Bokay thinks it would be wise if, in the future, diphtheria antitoxin were prepared not only from the horse, but from other animals, as the sheep, cow, and ass. The "accelerated reaction" to serum, Bokay thinks, indicates a previous inoculation of the patient with serum from the same species. He reports 2 cases of diphtheria in children of different families. Neither child had ever had any serum injection. They were both injected with the same quantity of a serum which was prepared at the same time from the same horse. Within a few minutes after the injection, both children broke out in a severe urticarial eruption, covering the face and scattered over the body. This rash faded within a day. These cases cannot be explained on the ground of anaphylaxis. In 1908 about 10 per cent. of cases occurring in Bokay's observation developed serum sickness, and in 1909 there was 23 per cent. In the month of January, 1911, out of 23 cases, 50